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**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2020080PC/or	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/FI 2003/000313	International filing date (day/month/year) 17.04.2003	Priority date (day/month/year) 19.04.2002
International Patent Classification (IPC) or national classification and IPC D21B 1/18, D21B 1/28		
Applicant Metso Paper, Inc. et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand  22.08.2003	Date of completion of this report  24.05.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer  Marianne Bratsberg/Els Telephone No. +46 8 782 25 00

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI 2003/000313

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☐ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☒ the international application as originally filed/furnished

☐ the description:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI 2003/000313

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-30</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-30</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-30</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

This report is based on claims as originally filed.

The following document is cited in the International Search Report:

D1: WO 0073571 A1

The invention defined in claims 1-30 relates to a method and an apparatus for controlling the water jet sharpening sequence of a pulpstone. The object of the invention is to adjust the water sharpening pressure, respectively the water sharpening interval, by means of the CSF value of the produced pulp or the CSF value calculated from the process variables and the variables describing the use of the pulp grinder resources. It is further the object of the invention to control the interval between the water sharpening operations to keep the water sharpening pressure within the control range, respectively to control the water sharpening pressure to keep the water sharpening interval within the control range.

D1 describes a method for the control of a ground wood pulping process, which includes controlling the water jet sharpening. In the pulping process described in D1, wood logs are pressed against the periphery of a rotating grinding stone, which is sharpened by means of pressurised water.

The quality of the pulp is determined using at least one variable,  $Q_x$ , which is compared to a set point,  $Q_0$ . The set point is considered to correspond to the defined target value. The pressurised water sharpening is started at a certain grinding stone surface condition, and continued until  $Q_x$  deviates from  $Q_0$  by a given amount,  $\Delta Q$ .

.../...

## Supplemental Box

In case the space in any of preceding boxes is not sufficient.  
Continuation of: BOX V

The claimed invention in the independent claims 1-2, 9-10, 16-17, 24-25 differs from the disclosure in D1 in that both the treatment pressure and the treatment interval are controlled.

There are no teachings in D1 or in the prior art as a whole that would prompt a person skilled in the art to modify the method in D1 so as to arrive at the claimed invention.

Thus, the invention in claims 1-30 is novel, is considered to involve an inventive step and to have industrial applicability.